

## CLIMATOLOGICAL DATA FOR JULY, 1911.

## DISTRICT No. 12, COLUMBIA VALLEY.

EDWARD A. BEALS, District Editor.

## GENERAL SUMMARY.

July was noted for the extremes in temperature and the deficiency in rainfall, which latter was especially marked in Washington, where it was drier than it has been during any other July of the last 22 years. The unusually high temperature of  $114^{\circ}$  recorded at Kennewick is within  $2^{\circ}$  of the highest record in that State, which is  $116^{\circ}$ , recorded at Lind, Wash., in 1900. In Oregon the highest temperature was  $115^{\circ}$  at Blalock, but this record has been exceeded a number of times, the highest authentic temperature recorded in Oregon being  $119^{\circ}$  at Prineville on July 29, 1898. Notwithstanding the dry weather and extreme heat, no great damage occurred, as the soil had been well moistened by good rains during the last decade in June. Thunderstorms were infrequent, and the few forest fires that occurred were quickly extinguished by the efficient fire patrols that have been established under National and State control. There were no damaging storms of note, and the weather on the whole was favorable for business and outdoor work of every kind.

## TEMPERATURE.

The mean temperature of the district as determined from the records of 261 stations averaged  $68.6^{\circ}$ , or about  $1.6^{\circ}$  above the normal. The mean temperatures were highest in the valleys of northeastern Oregon and southeastern Washington and lowest along the coast and in the mountainous regions of Wyoming. The temperature was above normal over all those portions of Oregon and Washington lying east of the Coast Mountains, and in northern and portion of southwestern Idaho. The greatest excess reported was  $9.2^{\circ}$  at Garnet, Idaho. Unusually high means were also reported from north-central and southwestern Oregon. In central and southeastern Idaho, western Montana and Wyoming, and along the coast the mean temperatures were below normal, the deficiency being most pronounced in the northern part of Oneida County, Idaho, where it amounted to almost  $6^{\circ}$ . The first decade was the coolest period, during which time some freezing weather occurred in the mountain and plateau regions. There were two very warm periods of about a week in duration each, namely, from the 12th to the 19th and from the 23d to the 29th, respectively. The 16th was a day of excessively high temperatures throughout the district except along the coast. On this day  $115^{\circ}$  was recorded at Blalock, Oreg., and  $114^{\circ}$  at Kennewick, Wash. The lowest temperature recorded was  $25^{\circ}$  at Pierson, Idaho, on the 2d, and also at Cliff, Oreg., and Williams, Oreg., on the 8th. The remarkable range of  $72^{\circ}$  occurred on the 13th at Snyders Ranch, a station in the upper part of the Twisp Valley in Washington, a maximum of  $109^{\circ}$  and a minimum of  $37^{\circ}$  being recorded.

## PRECIPITATION.

The precipitation was below normal in all portions of the district, the greatest amount as usual occurring along the coasts and in the higher elevations of the Cascade and Rocky Mountain ranges. At 130 stations, or about one-third of the number reporting, no rainfall in excess of a

trace was observed. In that portion of the district lying within the State of Washington the average precipitation was, with one exception, the least that has occurred there within the last 22 years.

Throughout the month the precipitation was remarkably evenly distributed, which makes it difficult to group the periods of wet and dry weather. In Idaho the rainfall was altogether local in character, and this is also true of most other portions of the district, although in Washington the showers generally occurred from the 1st to the 3d and from the 6th to the 9th.

The average precipitation for the district, as determined from the records of 369 stations, was 0.19 inch, which is 0.55 inch below the normal amount for July. The greatest monthly amount recorded was 1.54 inches at Clearbrook, Wash. The greatest amount in 24 consecutive hours was 1.08 inches at Libby, Mont., on the 8th.

## THE RIVERS.

All the rivers in the district showed a steady fall from the June stages, the change in the Snake River being most marked and in the Willamette the least. The streams were very nearly normal, however, the departures, such as there were, being mostly negative.

The Columbia River averaged 0.3 foot below the July normal; it was 2.4 feet below normal at Cascade Locks and 0.9 foot below at The Dalles. The highest stages occurred on the 1st and the lowest on the 31st. Compared with the mean stage for June, the average was 3.6 feet lower.

The Willamette River averaged 0.1 foot below the normal July stage. The backwater from the Columbia River kept the height of the Willamette at Portland above the flood stage—that is to say, above 15 feet, as recorded on the Weather Bureau gage—from the 7th of June until the 12th of July. The highest stage on the Willamette during the month was 17.9 feet at Portland on the 1st and the lowest was  $-0.6$  foot at Harrisburg on the last five days of July.

The Snake River averaged 0.1 foot below the normal for the month and a fall of 6.7 feet from the mean stage for June. The highest water was 11 feet at Lewiston on the 1st and the lowest 1.8 feet at Lewiston and Weiser on the 31st.

## MISCELLANEOUS.

Thunderstorms occurred over practically the entire district. They were most frequent in the central and northeastern sections and the periods of greatest frequency were from the 12th to 15th and 20th to 25th. Killing frosts occurred at various places in the mountainous sections of the district from the 7th to 10th.

Hailstorms occurred at but few stations in the district. A number of stations in the eastern sections reported high winds, especially on the 6th. The maximum velocity on this date was at Lewiston, Idaho, 48 miles from the west.

Sunshine was about normal; it was deficient during the first half of the month and excessive during the last. The prevailing direction of wind for the district was northwest.

TABLE 1.—*Climatological data for July, 1911. District No. 12, Columbia Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Sky.	Prevailing wind direction.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.								
<i>Montana.</i>																						
Anaconda.	Deer Lodge.	5,300	10	60.4	- 2.7	88	25	35	9	41	0.04	0.02	0.0	3	24	7	0	w.	C. D. Demond.			
Bison Mountain.	Powell.	7,240	2									0.08	0.0	3	24	7	0	s.	C. H. Anderson.			
Butte.	Silver Bow.	5,716	17	63.1	- 0.9	89	6	39	1†	35	0.40	- 0.83	0.40	0.0	1	19	8	4	w.	J. R. Wharton.		
Columbia Falls.	Flathead.	3,100	16	62.5	- 1.5	95	25	34	11	50	0.85	- 0.69	0.36	0.0	7	18	8	5	s.	J. M. Grist.		
Como **.	Ravalli.	3	65.4			96	6	42	2†	46	0.08		0.08	0.0	1	26	4	1	w.	Hiram Platt.		
East Anaconda.	Deer Lodge.	5,500	6	63.2		91	25	38	1	43	0.01		0.01	0.0	1	23	8	0	w.	C. D. Demond.		
Fortine.	Lincoln.	2,975	6	60.2		93	25	30	6	53	0.29		0.18	0.0	5	12	10	9	w.	Mike Petry.		
Hamilton.	Ravalli.	3,575	8	65.4		93	6	39	31	40	0.37		0.50	0.0	3	22	9	0	w.	Bitter Root Valley Ir. Co.		
Hat Creek.	Powell.	6,000	2									0.88		0.60	0.0	8	13	16	2	w.	M. K. Landreth.	
Kalispell.	Flathead.	2,965	13	62.6	- 1.7	90	25	42	2	41	0.78	- 0.06	0.27	0.0	7	12	15	4	w.	U. S. Weather Bureau.		
Libby.	Lincoln.	2,055	1	64.6*		98 <sup>c</sup>	25	34 <sup>c</sup>	5†	53 <sup>c</sup>	1.43		1.08	0.0	0	26 <sup>c</sup>	0 <sup>c</sup>	2 <sup>c</sup>	w.	M. E. Simmonds.		
Lost Creek.	Deer Lodge.	5,200	2									1.27		0.67	0.0	4	24	3	4	w.	Frank Henault.	
McGinnis Meadows.	Lincoln.	2																		w.	H. L. Bobee.	
Missoula.	Missoula.	3,225	32	65.8	- 1.4	96	18	36	10	48	0.21	- 0.84	0.12	0.0	3				w.	U. S. Weather Bureau.		
Ophir.	Powell.	8,800	2									1.33		0.65	0.0	3	20	10	1	w.	E. S. Wilton.	
Ovando.	do.	4,207	12	57.9	- 2.4	89	6	31	11	50	0.91	- 0.21	0.51	0.0	4	0	31	0	w.	S. B. Muchinore.		
Philipsburg.	Granite.	5,275	8																w.	G. T. Bramble.		
Plains.	Sanders.	2,475	13	64.4	- 1.5	92	24	39	2	41	0.18	- 1.43	0.18	0.0	1	28	1	2	sw.	M. H. Pierce.		
Pleasant Valley.	Flathead.	3,500	4	57.1		89	15†	29	28	54	0.53		0.22	0.0	3				w.	A. D. Stillman.		
Polson.	do.	2,920	4	65.4		89	25†	42	2	37	0.42							w.	F. P. Brown.			
Proctor.	do.	2,800	7															w.	C. E. Proctor.			
St. Ignatius.	Missoula.	2,700	6	64.6		96 <sup>b</sup>	29	37 <sup>b</sup>	8 <sup>b</sup>	46 <sup>b</sup>	0.63		0.38	0.0	4	18 <sup>b</sup>	5 <sup>b</sup>	3 <sup>b</sup>	w.	U. S. Reclamation Service.		
St. Regis.	do.	2,650	4	63.5		97	15	32	10†	57	0.00		0.00	0.0	0	9	20	2	ne.	R. D. Lee.		
Saltese.	do.	3,600	7									0.28		0.0	1	28	0	3	w.	E. K. Tarbox.		
Troy.	Lincoln.	1,880	17															w.	W. E. Milnor.			
Willow Glen Stock Farm.	Deer Lodge.	5,064	1	59.5		87 <sup>a</sup>	24	33	30	45 <sup>a</sup>	0.13		0.12	0.0	2	18	11	2	sw.	G. E. Luce.		
<i>Wyoming.</i>																						
Afton.	Uinta.	6,200	7	58.6	- 1.7	87	14	27	9†	55	0.57	- 0.23	0.29	0	4	30	1	0	w.	A. V. Call.		
Alta.	do.	7,000	1	56.2		82	14	29	23†	47	0.72		0.30	0	3	24	6	1	sw.	Mrs. Lucy Brown.		
Bedford.	do.	5,900	11	57.0	- 2.1	83	14	27	9	48	0.39		0.32	0.23	0	2	27	4	0	w.	C. G. Heinier.	
Belcher River.	Yellowstone Park.											0.04		0.02	0	2			s.	U. S. Army.		
Moran.	Uinta.																		w.	U. S. Reclamation Service.		
Snake River.	Yellowstone Park.	7,000	5	55.5		84	14	28	10†	50	0.02		0.02	0	1	20	9	2	w.	U. S. Army.		
<i>Nevada.</i>																						
San Jacinto.	Elko.		6	65.6		96	14	35	1†	51	0.38		0.18	0	5	18	11	2	sw.	Mose Jones.		
<i>Utah.</i>																						
Standrod.	Boxelder.		7	65.6		86	13†	35	1†	35	0.59		0.17	0	9	21	8	2	sw.	T. B. Jones.		
<i>Idaho.</i>																						
Alpha.	Boise.	1																	w.	J. W. King.		
Almo.	Cassia.	3																	w.	William D. Cahoon.		
American Falls.	Oneida.	4,341	19	63.7	- 5.6	96	16	27	1	56	0.04	- 0.44	0.03	0	3	23	6	2	sw.	Harry W. Hall.		
Blackfoot.	Bingham.	4,503	15	65.0	- 3.3	91	17	36	1	46	T.	- 0.46	0.18	0	0	21	10	0	sw.	E. A. Dowd.		
Blackfoot Dam.	Bannock.	6,200	2	61.6 <sup>b</sup>		91 <sup>b</sup>	12	32	1	48 <sup>b</sup>	0.18		0.18	0	1	22	8	1	s.	N. W. Irsfield.		
Bogus Creek.	Boise.	4,200	3																w.	F. P. Ingraham.		
Boise.	Ada.	2,739	26	73.6	+ 0.8	99	17	48	9	41	0.05	- 0.13	0.04	0	2	20	11	0	nw.	U. S. Weather Bureau.		
Bonners Ferry.	Bonner.	1,850	4	64.5		97	21†	34	5	52	0.00		0.00	0	2	21	8	2	sw.	W. H. Heideman.		
Bowler Mine.	Boise.	4,800	2																w.	Patrick Moriarty.		
Buhl.	Twin Falls.	3,800	5	74.7 <sup>a</sup>		102	5	43 <sup>a</sup>	1	48 <sup>a</sup>	0.18		0.08	0	5				w.	Hugh Taylor.		
Caldwell.	Canyon.	2,372	7	72.5		99	14†	41	9	47	0.23		0.23	0	1	19	12	0	w.	Wm. J. Boone, D. D.		
Camas.	Fremont.	4,815	3	64.2		95	14	34	1†	51	0.10		0.10	0	1	14	17	0	sw.	Mrs. Ednah Faulkner.		
Cambridge.	Washington.	2,651	16	71.6	- 5.6	102	13	38	9	49	0.00	- 0.31	0.00	0	0	30	1	0	s.	Chas. H. Shepherd.		
Cedar Creek Dam.	Twin Falls.	2											0.44		0.22	0	5	16	14	1	nw.	R. Hoffman.
Chesterfield.	Bannock.	5,424	16	61.2	- 0.8	91	17	27	9	56	0.08	- 0.36	0.04	0	2	21	8	2	nw.	C. S. West.		
Clyde.	Custer.	6,044	4	60.4		88	31	33	1	48	0.19		0.05	0	5	20	11	0	nw.	R. L. Sutcliffe.		
Cottonwood Creek.	Boise.	4,000	2			72.2			96	12†	42	8 <sup>b</sup>	45						w.	F. Hedrick.		
Council.	Washington.					96	17	42	8 <sup>b</sup>	45									w.	Dick Ross.		
Nez Perce.	Nez Perce.	1,520	3	71.0		105	16	40	4	50	0.00		0.00	0	0	26	5	0	w.	R. R. Richmond.		
Deary.	Latah.	2																w.	H. P. Henry.			
Dent.	Clearwater.	1,350	6	69.7		103	17	40	10	61	0.05		0.05	0	1	22	9	0	w.	E. Schuessler.		
Driggs.	Fremont.	6,097	5	59.2		89	5	32	10†	48	T.		0	0	17	10	4	s.	W. H. Durrant.			
Edie.	do.	2	58.8			81	17	33	2†	40	0.09		0.09	0	1	29	2	0	s.	G. B. Edie.		
Emmett.	Canyon.	2,350	5	72.5 <sup>b</sup>		102 <sup>b</sup>	13†	40 <sup>b</sup>	8	48 <sup>b</sup>	T.		0.07	0	0	29	2	0	w.	C. P. Kar.		
Forney.	Lemhi.	14	60.6	- 0.2	93	7	29	9	56	0.94	- 0.14	0.74	0.3	0	3	12	17	2	w.	M. B. Merritt.		
Garden Valley.	Boise.	2,600	4									0.09	0.09	0	1	24	6	1	w.	Mrs. Gertrude M. Ross.		
Garnet.	Elmore.	2,575	12	79.4	+ 9.2	105 <sup>a</sup>	14†	46	9	48	0.00	- 0.12	0.00	0	0				e.	A. A. Kenison.		
Glenns Ferry.	Elmore.	2,569	4	74.6		106	13†	37	9	54	0.09		0.09	0	1	31	0	0	nw.	I. E. Perkins.		
Gooding.	Lincoln.	3,572	2	70.5		98	13†	36	1	49	0.00		0.00	0	0	26	4	1	w.	J. Krall, Jr.		
Grand Forks.	Shoshone.	3,000	2	60.0		92	16	34	10†	52												

TABLE 1.—Climatological data for July, 1911. District No. 12—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.			
				Mean.	Departure from the normal.	Highest. Date.	Lowest. Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.					
<i>Idaho—Continued.</i>																					
Meridian.	Ada.	2,657	1	72.6		101 15†	40 9	46 0.19		0.14	0	2	17	14	0	nw.	A. W. Garrett.				
Mesa.	Adams.	3,275	2	72.8		99 17	46 2†	40 0.25		0.25	0	1	16	10	5	ne.	I. S. Carter.				
Middle Fork.	Idaho.	1,250	2	68.6		98 15†	45 10†	46 0.12		0.12	0	1	31	0	0	...	Jos. McGhee.				
Milner.	Twin Falls.	4,110	6	71.0		97 15†	37 1	45 0.20		0.15	0	2	25	4	2	w.	J. K. Young.				
Moscow.	Latah.	2,748	20	68.0	- 1.4	99 16	40 10	44 0.10	- 0.65	0.05	0	2	17	13	1	nw.	University of Idaho.				
Mountainhome.	Elmore.	3,150	6	70.6		100 15	36 9	51 0.07		0.07	0	1	21	10	0	nw.	Mrs. Ellen Marion.				
Murtaugh.	Twin Falls.	5	68.0			93° 7†	35° 1	45° 0.34		0.20	0	0	26	5	0	w.	J. E. Steinour.				
Nez Perce.	Lewis.	3,082	2	64.0		95 16	34 9	47 0.00		0.00	0	0	16	15	0	s.	P. Mitchell.				
Oakley.	Cassia.	4,700	18	70.3	- 0.4	95 13†	41 1	46 0.84	+ 0.40	0.35	0	4	16	4	2	n.	John Adams.				
O'Hara Bar.	Clearwater.	1,027	8	69.8		104 16	43 9	56 0.19		0.15	0	3	22	9	0	...	J. D. Agnew.				
Orofino.	Canyon.	2,159	20	73.0	- 0.9	104 17	40 9	51 T.	- 0.31	T.	0	0	25	4	2	n.	G. Alteneder.				
Payette.	do.	2,325	1														E. F. Allen.				
Peaceful Valley.	Bannock.	5,277	2	61.7		89 17	27 9	53 0.49		0.40	0	4	20	11	0	sw.	J. W. Newton.				
Pebble.	Pierson.	7,000	3	60.3		88 5†	25 2	55 T.		T.	0	0	30	1	0	...	D. P. Clarke.				
Pleasant Valley.	Ada.	3,000	4	71.2		101 13	40 9†	48 0.28		0.23	0	3	31	0	0	n.	C. E. Friedrich.				
Pocatello.	Bannock.	4,483	12	69.6	- 1.6	93 14	41 1	40 0.47	- 0.16	0.42	0	5	20	11	0	se.	U. S. Weather Bureau.				
Pocatello Nursery.	do.	5,396	3	62.9		87° 7	30° 2	52 0.15		0.11	0	2				sw.	Mrs. Anna M. Wrensted.				
Poplar.	Bonneville.	do.															C. M. Lawrence.				
Portbill.	Bonner.	1,665	20	64.9	- 1.1	93 25	39 5	40 0.49	- 0.55	0.23	0	4	23	6	2	...	H. A. French.				
Pyle Creek.	Boise.	3,100	2							0.20		0	3	25	6	0	s.	P. V. Smith.			
Richfield.	Lincoln.	2	69.1			97 15	32 1	49 0.00		0.00	0	0	25	6	0	w.	Idaho Irrigation Co.				
Roseberry.	Boise.	1	58.9			92 5	30 8	50 0.50		0.28	0	2				...	Rev. H. F. Barstow.				
Roseworth.	Twin Falls.	2								0.25		0	3	1	29	1	nw.	D. B. Hartwell.			
Rupert.	Lincoln.	4,204	5	68.2		94 13†	37 1	46 0.40		0.20	0	3	27	3	1	w.	Will Parry.				
St. Maries.	Kootenai.	2,263	15	66.3	+ 0.9	95 15†	41 11	42 0.35	- 0.72	0.28	0	3	16	9	6	...	J. S. Turnbull.				
Salmon.	Lemhi.	4,040	6	65.7		93 14†	38 9	48 0.26		0.18	0	2	25	6	0	w.	B. C. d'Easum.				
Salmon River Dam.	Twin Falls.	3	70.8			95 13	38 8	41 0.26		0.17	0	4	23	3	5	nw.	A. M. Gilbert.				
Sandpoint.	Bonner.	2,086	1	63.9		94 17†	35 10	52 0.18		0.09	0	3	21	6	4	w.	J. H. Edgerton.				
Sheep Hill.	Boise.	5,000	3							0.08	0	3				...	O. A. Truman.				
Silver City.	Lincoln.	3,968	3	68.1		91 16	34 8	45 T.		T.	0	0	22	9	0	w.	A. D. Bradfield.				
Soldier Creek.	Blaine.	6,280	4			88d 4†	33d 7	44d T.		T.	0	5	14	14	3	...	J. E. Minear.				
Spirit Lake.	Coeur d'Alene.	5,747	1	64.7		97 15	35 10	54 0.63		0.32	0	2	28	3	0	ne.	M. C. Krause.				
Springfield.	Bingham.	4,420	3	67.8		95 14	36 1	52 0.02		0.02	0	1	18	13	0	sw.	Mrs. W. A. Edwards.				
Sugar.	Fremont.	2	63.8			90 14	35 2†	44 0.11		0.06	0	2	20	8	3	sw.	Utah-Idaho Sugar Co.				
Sunnyside.	Elmore.	2	72.2			101 13	39 31	50 0.13		0.13	0	1				...	E. A. Wilmot.				
Tripod Mountain.	Boise.	4,300	2							0.05	0	1	26	5	0	...	Mrs. Verna Paddock.				
Twin Falls.	Twin Falls.	3,825	6	69.4		98 6†	33 8	51 0.05		0.04	0	2	18	11	2	w.	J. A. Waters.				
Vernon.	Fremont.	14	62.8	- 1.5		90 16	32 9	45 0.50	- 0.12	0.31	0	4	18	12	1	sw.	A. M. Slatery.				
Wallace.	Shoshone.	2,728	1	64.4		95 15†	40 11	46 0.39		0.25	0	5	5	1	1	e.	U. S. Weather Bureau.				
Wendell.	Lincoln.	3,400	3	73.0		102 13†	38 9	51 T.		T.	0	0	25	5	1	w.	C. L. Dingler.				
<i>Washington.</i>																					
Aberdeen.	Chehalis.	162	60	62.1	+ 2.0	96 13	44 12	44 .80	- .11	.22	0	6	12	17	2	w.	C. S. Weatherwax.				
Anacortes.	Skagit.	60	17	60.1		86 16†	39 6	43 .34	- .25	.12	0	4	21	8	2	...	Douglas Allmond.				
Baker.	Baker.	200	5	67.6		98 24	44 11	42 .41	- .21	.26	0	2	18	10	3	...	R. M. White.				
Bellingham.	Whatcom.	60	16	62.0	+ 1.2	84 29	36 10	37 .53	- .23	.18	0	7	24	5	2	...	S. B. Mayhew.				
Bellingham, near.	do.	107	6	61.2		86 17	39 11	37 .19	- .07	.07	0	6	20	7	4	...	U. S. Bureau Plant Industry.				
Beverly.	Grant.	545																			
Blaine.	Whatcom.	57	14	61.0	+ 0.1	90 17	40 4†	40 .62	- 1.23	.26	0	5	15	14	2	w.	J. W. Sheets.				
Blewett.	Chelan.	2,200	1														John Burmeister.				
Bremerton.	Kitsap.	30															U. S. Navy Yard.				
Brewster.	Okanogan.	1,620	1	73.6		104 15	51 11	39 T.		T.	0	0	26	5	0	...	Mrs. H. F. Bertram.				
Bumping Lake.	Yakima.	3,400	1	59.2		94 16	31 22†	53 .10		.10	0	1	29	0	2	...	U. S. Reclamation Service.				
Cedar River.	King.	525	4														George Landsburg.				
Centralia.	Lewis.	212	18	64.6	+ 0.3	98 16	38 9	46 .14	- .53	.14	0	1	16	12	3	n.	J. S. Turner.				
Cheney.	Spokane.	2,351	12	70.5		98 17	43 10	49 .00	- .70	.07	0	0	0	0	0	...	State Normal School.				
Cle Elum.	Kittitas.	1,930	12	63.6	- 0.2	102 15	36 13	56 .0	- .35	.0	0	0	27	4	0	sw.	W. L. Sax.				
Clearbrook.	Whatcom.	140	8	61.6		96 24	36 11	50 .154	- .64	.0	0	0	2	25	1	5	...	William Baines.			
Colfax.	Whitman.	2,300	22	67.0	+ 2.2	101 16	34 11	51 .0	- .13	.97	0	0	2	19	9	3	sw.	U. S. Reclamation Service.			
Colville.	Stevens.	1,635	11	67.6	- 0.5	101 16	37 11	51 T.	- .10	.06	0	0	2	27	4	0	...	Otto Wollweber.			
Connelly.	Okanogan.	2,300	11	67.4	+ 0.9	97 15†	39 11	43 .03	- 1.07	.02	0	2	27	3	1	...	James L. Thayer.				
Cowiche.	Yakima.	1,874	1	71.8		101 16	45 7	34 .02	- .44	.02	0	1	27	4	0	...	W. W. Hendron.				
Crescent.	Lincoln.	2,250	11	67.6	+ 1.3	99 16	41 11	48 .29	- .44	.27	0	2	27	3	1	...	James Mills.				
Davenport.	do.	2,450	2	67.0		98b 15†	38† 7	45 .22	- .56	.22	0	1	22	6	3	...	Walter O. Eckert.				
Dayton.	Columbia.	1,700	25	72.0	+ 2.5	100 16	45 45	48 .05	- .56	.05	0	1	26	5	0	...	T. Z. Andrews.				
Deer Park.	Spokane.	2,050	3	65.9		99 15†	36 10	52 .49	- .49	.40	0	3	20	8	3	...	Valley Power Co.				
Detroit.	Mason.	30	3	66.0		97 16†	42 11	48 .61	- .49	.55	0	0	23	6	3	...	E. G. Newman.				
Dixie.	Walla Walla.	5,000	2							0.03	0	0	29	2	0	...	R. L. Barnes.				
Dryden.	Chelan.	966	1							0	0	0	0	0	0	0	T. J. Cook.				
Duckabush.	Jefferson.	380	3	63.7		94 24	39 11	45 .40	- .49	.15	0	5	14	9	8	sw.	Dr. F. H. Monk.				
East Sound.	San Juan.	500	16							0	0	0	0	0	0	0	C. M. Mackintosh.				
Ellensburg.	Kittitas.	1,571	23	68.1	+ 1.7	104 15	42 2	52 T.	- .28	T.	0	0	0	28	3	0	...	U. S. Forest Service.			
Ephrata.	Grant.	1,265	8	77.4		107 15†	50 1†	40 0	- .17	.05	0	1	29	0	2	...	John W. Anderson.				
Forks.	Clallam.	480	2							0	0	0	0	0	0	0	Klickitat County Abstract Co.				
Fort Simcoe.	Yakima.	1,427	17	70.8	- 2.2	107 17	35 8	47 .0	- .09	0	0	0	0								

TABLE 1.—*Climatological data for July, 1911. District No. 12—Continued.*

Stations.	Counties	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.								Precipitation, in inches.								Observers.
				Mean.	Departure from the normal.		Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	
<i>Washington—Contd.</i>																				
Lake Clealum.	Kittitas.	2,171	2	63.7	—	98	15	41	11	48	.29	.27	0	2	19	8	4	nw.	U. S. Reclamation Service.	
Lake Kachess.	do.	2,235	3	63.7	+ 0.5	103	16	51	7	40	.72	.60	0	4	22	2	1	s.	Do.	
Lake Keechelus.	do.	2,479	3	63.7	+ 0.5	104	16	42	8	32	.45	.30	0	2	22	2	7	w.	Do.	
Lakeside.	Chelan.	1,118	20	73.4	+ 0.5	103	16	51	7	40	T. —	.34	T. —	0	0	20	9	2	w.	W. H. Van Meter.
Laurel.	Klickitat.	1,900	2	64.5	+ 0.5	102	15	35	11	59	.0	0	0	0	0	23	8	0	w.	Mrs. Minnie E. Strout.
Laurier.	Ferry.	1,644	1	69.3	+ 0.5	102	15	41	5	56	.94	.86	0	4	18	8	5	ne.	Mrs. J. S. Myers.	
Lester.	King.	1,614	7	64.5	+ 0.5	102	15	35	7	59	.67	.30	0	3	21	2	8	w.	W. W. Clabaugh.	
Lone Tree.	Chehalis.	14	2	58.6	+ 0.5	84	13	49	11	30	.35	.12	0	0	5	9	16	6	nw.	U. S. Engineer Corps.
Longmires Springs.	Pierce.	2,800	2	63.7	+ 0.5	102	15	41	9	48	.14	.11	0	2	22	7	2	s.	National Park Ranger.	
Lost Creek.	Okanogan.	3,125	2	63.7	+ 0.5	108	16	48	1	44	.02	.02	0	1	25	3	3	nw.	P. H. Leese.	
Lucerne.	Chelan.	1,100	4	63.7	+ 0.5	108	16	48	1	44	.02	.02	0	0	23	8	0	sw.	Mrs. Barbara Schearer.	
McConihe.	Grant.	1,072	2	76.4	+ 0.5	108	16	48	1	44	.02	.02	0	1	25	3	3	nw.	Lucien F. McConike, jr.	
McCumber's Ranch.	Yakima.	2,182	2	63.7	+ 0.5	108	16	48	1	44	.02	.02	0	0	23	8	0	sw.	Mrs. Mary McCumber.	
Mettinger.	Benton.	307	11	78.4	+ 2.5	110	15	50	8	43	.0	.0	0	0	29	2	6	w.	G. H. Mettinger.	
Mount Pleasant.	Clallam.	500	19	60.9	+ 2.5	91	16	42	8	32	.23	.08	0	5	23	2	6	nw.	Wm. M. Dorr.	
Moxee.	Yakima.	1,000	19	73.5 <sup>b</sup>	+ 2.2	109 <sup>b</sup>	16	40 <sup>b</sup>	1	53 <sup>b</sup>	.03	.23	.03	1	25	5	1	sw.	H. B. Scudder.	
Newport.	Stevens.	2,400	1	64.6	+ 1.3	95	16	36	11	53	.30	.15	0	3	24	6	1	sw.	Chas. M. Talmadge.	
North Head.	Pacific.	211	9	56.4	+ 1.3	87	23	48	12	33	.46	.08	.22	0	7	6	10	nw.	U. S. Weather Bureau.	
Northport.	Stevens.	1,350	12	68.4	+ 1.3	100	15	42	11	47	.19	.12	.23	.07	4	24	5	2	nw.	Frank Janneck.
North Yakima.	Yakima.	1,070	2	76.0	+ 1.3	106	16	45	7	39	.02	.02	0	1	27	3	1	nw.	Albert Bender.	
Nutland.	Klickitat.	2,736	2	63.6	+ 1.3	108	16	42	9	48	.07	.07	0	1	20	11	0	sw.	Ruth J. Shepard.	
Odessa.	Lincoln.	1,540	8	71.6	+ 1.0	105	16	39	1	59	.14	.14	0	1	20	11	0	sw.	Wm. U. Needley.	
Olga.	San Juan.	50	21	60.4	+ 1.0	81	24	45	28	28	.40	.33	.21	0	5	19	7	5	nw.	Cecil S. Welles.
Olympia.	Thurston.	200	33	64.8	+ 1.0	99	16	40	9	47	.18	.51	.10	3	20	5	6	nw.	M. O'Connor.	
Omak.	Okanogan.	850	2	78.0 <sup>m</sup>	+ 1.0	107	15	51 <sup>m</sup>	21	51 <sup>m</sup>	T. —	T. —	0	0	21	7	3	n.	St. John Winbrite.	
Oroville.	do.	922	2	73.9	+ 1.0	107	16	47	4	51	T. —	T. —	0	0	21	10	0	n.	Elizabeth Stanbury.	
Parker.	Yakima.	5,000	2	61.8 <sup>a</sup>	+ 1.0	98	13	38	11	53	1.41	.41	0	11	16	4	11	nw.	Samuel Gruell, sr.	
Pooley.	Garfield.	2,870	19	71.0	+ 1.5	104	16	42	12	49	.11	.06	0	2	27	4	0	nw.	Peter McClung.	
Port Crescent.	Clallam.	259	16	55.9	+ 0.8	84	16	38	11	37	.18	.43	T. —	0	5	12	14	5	w.	U. S. Weather Bureau.
Port Townsend.	Jefferson.	80	21	60.8	+ 0.8	87	16	46	26	35	.45	.30	.43	0	3	22	3	6	nw.	Frank Plummer.
Pullman.	Whitman.	2,550	19	69.4	+ 1.9	99	16	44	9	44	.03	.61	.03	0	1	25	5	1	sw.	State Agricultural College.
Queets River.	Chehalis.	2,600	4	65.6	+ 1.9	104	13	42	11	59	.59	.47	.25	0	4	19	9	3	w.	C. A. Bullard.
Quinault.	do.	300	4	65.6	+ 1.9	104	13	42	11	59	.59	.47	.41	0	4	24	3	4	w.	A. V. Higley.
Republic.	Ferry.	2,628	11	63.7	+ 0.9	97	15	36	10	52	.69	.41	0	0	24	3	7	3 <sup>e</sup>	George B. Stocking.	
Rex Creek.	Chelan.	1,135	4	69.7 <sup>e</sup>	+ 0.9	95 <sup>e</sup>	17	49 <sup>e</sup>	11	34	T. —	T. —	0	0	16 <sup>e</sup>	7 <sup>e</sup>	3 <sup>e</sup>	nw.	James W. Nicol.	
Ritzville.	Adams.	1,825	12	67.2	+ 1.0	106	15	40	11	52 <sup>a</sup>	.05	.24	.05	0	1	25	5	1	sw.	Agent N. P. Ry.
Rock Lake.	Whitman.	1,910	5	71.0 <sup>a</sup>	+ 1.0	106 <sup>a</sup>	15	40	11	52 <sup>a</sup>	.29	.23	.23	0	2	25	5	1	sw.	P. M. Rainsey.
Rosalia.	do.	2,425	19	68.4	+ 3.4	97	15	43	8	42	.22	.66	.18	0	2	23	8	0	sw.	Hans Mum.
Russell's Ranch.	Yakima.	2,870	2	68.4	+ 3.4	97	15	43	8	42	.18	.17	0	2	23	8	0	w.	Miss Maggie M. Russell.	
Seattle.	King.	123	20	65.0	+ 1.5	92	16	50	8	32	.18	.51	.12	0	4	14	9	8	n.	U. S. Weather Bureau.
Sedro Woolley.	Skagit.	38	14	63.8	+ 1.4	95	13	41	11	49	.60	.81	.25	0	7	20	8 <sup>a</sup>	8 <sup>a</sup>	sw.	Mrs. H. L. Devin.
Sixpiron.	Klickitat.	1,240	4	77.3 <sup>a</sup>	+ 1.0	109 <sup>a</sup>	16	42 <sup>a</sup>	8	40	T. —	T. —	0	0	21 <sup>a</sup>	8 <sup>a</sup>	1 <sup>a</sup>	sw.	C. E. Comstock.	
Skagit Power Dam.	Whatcom.	510	1	68.6	+ 1.0	105	24	45	11	51	.68	.25	0	4	20	3	8	n.	Skagit Power Co.	
Snohomish.	Snohomish.	100	17	63.4	+ 0.7	94	16	40	11	50	.51	.68	.40	0	5	18	4	9	n.	Warren Hodge.
Snoqualmie Falls.	King.	567	12	67.2	+ 1.0	100	15	42	11	45	1.00	.19	.67	0	6	22	3	6	w.	O. N. Wiswell.
Snyder's Ranch.	Okanogan.	2,200	2	65.1	+ 1.0	109	13	34	12	72	T. —	T. —	0	0	26	5	0	w.	G. M. Snyder.	
South Bend.	Pacific.	16	60.5	+ 2.1	96	13	39	11	45	.78	.24	.34	0	0	6	12	10	9	w.	Mrs. Winifred E. Buckingham.
Spokane.	Spokane.	1,943	30	70.7	+ 1.9	98	16	48	1	41	.25	.42	.06	0	4	16	9	6	nw.	U. S. Weather Bureau.
State University.	King.	170	2	63.7	+ 0.6	94	16	42	18	32	.68	.62	.62	0	3	15	10	6	w.	University of Washington.
Stokes Ranch.	Okanogan.	2,670	2	63.7	+ 0.6	94	16	42	18	32	.15	.14	0	2	26	5	0	w.	Charles W. Gunn.	
Summer.	Pierce.	77	3	62.4 <sup>a</sup>	+ 0.5	94	24	39 <sup>b</sup>	27	46 <sup>b</sup>	.31	.15	0	5	20	3	8	nw.	H. E. Thompson.	
Tacoma.	Pierce.	213	25	64.2	+ 0.8	92	24	48	11	34	.06	.60	.04	0	2	14	7	10	n.	U. S. Weather Bureau.
Tatoosh Island.	Chelan.	86	26	55.1	+ 0.5	105	15	41	8	49	.0	.23	0	0	25	6	0	nw.	Do.	
Tieton.	Yakima.	2,000	2	66.8	+ 0.5	101	15	41	9	45	T. —	T. —	0	0	23	8	0	w.	U. S. Reclamation Service.	
Tomasket.	Okanogan.	945	17	75.1	+ 0.5	105	15	47	2	42	0	0	0	0	20	1	1	n.	E. H. Twilight.	
Touchet.	Walla Walla.	556	4	73.8	+ 0.5	107	16	40	11	54	T. —	T. —	0	0	28	1	2	sw.	D. W. Dorrance.	
Touchet Ridge.	Columbia.	2,500	2	78.8	+ 1.0	107	15	51	10	39	.06	.06	.06	0	29	2	0	nw.	R. H. King.	
Trinidad.	Douglas.	900	7	77.1	+ 3.0	108	16	50	8	39	T. —	.39	T. —	0	0	25	5	1	s.	J. C. Wheeler.
Vancouver.	Clarke.	100	36	68.6	+ 1.6	99	24	45	8	43	.11	.81	.10	0	2	19	10	2	nw.	A. A. Quarnberg.
Vashon Island.	King.	40	22	62.3	+ 0.7	86	16 <sup>b</sup>	38	12	36	.10	.44	.04	0	0	23	2	1	n.	Miss Gertrude McClintonck.
Wahluke.	Grant.	410	7	75.0	+ 1.0	106	16	51	10	42	0	0	0	0	0	27	4	0	w.	F. C. Koppen.
Wallace.	Okanogan.	4,000	2	77.1	+ 3.0	108	16	50	8	39	T. —	.39	T. —	0	0	25	5	1	s.	G. A. Wallace.
Walla Walla.	Walla Walla.	1,000	27	65.9	+ 0.6	95	24	44	9	41	.11	1.03	.07	0	3	23	4	4	w.	U. S. Weather Bureau.
Washtougal.	Skamania.	550	11	65.9	+ 0.6	89	23	46	11	34	.40	.45	0	0	0	28 <sup>a</sup>	0 <sup>a</sup>	w.	F. M. Grout.	
Waterville.	Douglas.	2,624	12	68.6	+ 1.9	104	15	41	11	52	0	.45	0	0	0	26	4	1	w.	O. R. Hopewell.
Wenatchee, near.	Chelan.	1,169	12	71.7	+ 2.2	106	16	46	10	33	T. —	.43	T. —	0	0	28	3	0	w.	George A. Pitcher.
White Salmon.	Klickitat.	325	17	57.8	+ 1.5	76	15	49	11	44	T. —	T. —	0	0	26	5	2	sw.	C. W. J. Reckers.	
Wilbur.	Lincoln.	2,203	12	68.2 <sup>b</sup>	+ 3.7	101 <sup>b</sup>	15	36 <sup>b</sup>	9	52 <sup>b</sup>	T. —	.58	T. —	0	0	23	6	2	sw.	R. J. Reeves.
Windthrop.	Skamania.	1,300	10	64.0	+ 1.0	104	16	40	9	39	T. —	T. —	0	0	27	0	4	n.	U. S. Forest Service.	
Zillah.	Cowlitz.	375	4	67.2	+ 1.0	101	24	39	9	48	.16	.15	0	0	2	19	10	2	sw.	Methow Trading Co.
Zillah.	Yakima.	800	7	72.3	+ 1.0	107	16	42	2 <sup>t</sup>	50	0	0	0	0	0	29	2	0	w.	L. F. Williams.
Zindel.	Asotin.	715	9	69.2	+ 3.9	100	16	39	8	51	0.03	— 0.25	0.03	0	1	24	6	1	w.	Clarence G. Ware.
<i>Oregon.</i>																				
Albany.	Linn.	212	30	67.8	+ 1.5	102</td														

TABLE 1.—Climatological data for July, 1911. District No. 12—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.	Prevailing wind direction.	Observers.				
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelting.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
<b>Oregon—Continued.</b>																				
Dayville.	Grant.	2,200	17	68.4	-0.5	99	15†	38	8	53	0.14	-0.24	0.11	0	2	29	2	0	nw.	
Deadwood.	Lane.	350	1	66.2	.....	101	16	66	21	53	T.	.....	0	0	24	5	2	nw.		
Doraville.	Columbia.	600	10	63.8	+ 1.3	96	16†	43	9	44	0.14	-0.24	0.07	0	4	18	5	8	nw.	
Drain.	Douglas.	300	9	68.2	.....	102	15†	40	8†	55	0.01	.....	0.01	0	1	28	3	0	nw.	
Echo.	Umatilla.	625	7	76.6	.....	110	15	48	12	50	T.	.....	0	0	28	3	0	w.		
Ella.	Morrow.	830	7	77.0	.....	112	16	48	8	45	T.	.....	0	0	28	3	0	sw.		
Eugene.	Lane.	449	21	67.4	+ 1.8	98	16	42	8	41	0.07	-0.47	0.06	0	2	11	19	1	nw.	
Fairview.	Coos.	142	15	58.0	-3.4	95	16	40	1†	45	0.00	-0.52	0.00	0	0	28	1	2	nw.	
Falls City.	Polk.	355	14	65.4	+ 2.2	101	16	36	8	48	0.03	-0.44	0.03	0	1	28	3	0	e.	
Forest Grove.	Washington.	220	22	70.1	+ 4.7	103	16	40	9	48	0.00	-0.47	0.00	0	0	18	10	3	n.	
Gardiner.	Douglas.	72	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. S. Gray.	
Glendale.	do.	1,441	7	69.2	+ 6.5	109	16	37	9	58	T.	-1.25	T.	0	0	28	3	0	nw.	
Glenora.	Tillamook.	575	20	64.6	+ 1.9	103	16	37	11	55	0.70	-0.53	0.54	0	3	24	3	4	nw.	
Gold Beach.	Curry.	40	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. N. Ford.	
Granite.	Grant.	4,680	6	68.6	.....	95	16	28	10	52	T.	.....	T.	0	0	15	16	0	sw.	
Grants Pass.	Josephine.	956	23	72.2	+ 2.6	110	16	37	8	56	0	-0.11	0	0	0	27	4	0	Agent O. W. R. & N. Co.	
Grass Valley.	Sherman.	2,381	10	79	68.3	.....	104	24	35	11	39	0.40	-1.18	0.18	0	3	22	7	2	Portland Waterworks.
Headworks.	Clackamas.	719	9	68.3	.....	104	24	35	11	39	0.40	-0.57	T.	0	0	26	4	1	Ralph M. Kenton.	
Heppner.	Morrow.	1,950	21	71.2	+ 2.4	103	16	42	8	40	T.	.....	T.	0	0	30	1	0	C. W. Kellogg.	
Herminston.	Umatilla.	451	5	75.1	.....	110	16	46	12	49	T.	.....	.....	.....	.....	.....	.....	.....	Carl T. Hubbard.	
Hermoso Rio.	Crook.	2,300	21	72.4	+ 5.1	106	15	46	28	47	0.00	-0.19	0.00	0	0	29	2	0	H. L. Hasbrouck.	
Hood River.	Hood River.	300	21	81.5	.....	105	17	60	1	35	0.00	.....	0.00	0	0	18	13	0	L. Connell.	
Huntington.	Baker.	2,165	10	73.4	+ 3.5	105	16	41	1	46	T.	.....	0.19	T.	0	0	28	3	0	E. Britt.
Jacksonsville.	Jackson.	1,610	23	65.2	+ 2.6	96	15	32	8	44	0.00	-0.91	0	0	0	26	4	1	F. F. McCully.	
Joseph.	Wallowa.	4,400	22	65.2	.....	108	15†	40	1	57	0.00	.....	0.00	0	0	29	2	0	C. T. Canfield.	
Kerby.	Josephine.	72.4	.....	92	17†	28	1	54	50	.....	.....	0.50	0	0	1	25	5	1	Edson C. Watson.	
Klamath Agency.	Klamath.	4,169	3	60.8	.....	102	17	38	7	49	T.	.....	T.	0	0	23	8	0	W. H. Heileman.	
Klamath Falls.	do.	4,100	23	71.4	.....	105	27	38	7	49	T.	.....	.....	.....	.....	.....	.....	.....	W. A. Worstell.	
Lakeview.	Lake.	4,255	28	68.8	.....	106	16	33	8	51	0	.....	0	0	0	29	2	0	Bert Rice.	
McKenzie Bridge.	Lane.	1,400	10	67.2	+ 2.4	108	15†	33	10†	67	0.09	-1.07	0.05	0	2	28	0	3	sw.	
McMinnville.	Yamhill.	182	24	66.8	+ 2.1	102	16	41	3	53	0.08	-0.30	0.05	0	0	22	6	3	sw.	
Marshfield.	Coos.	34	10	57.8	-1.6	77	23	42	7†	31	0	.....	0	0	0	0	0	0	U. S. Weather Bureau.	
Medford.	Jackson.	1,425	5	75.1	.....	110	16	40	1	57	0.24	.....	0.15	0	0	26	5	0	Do.	
Merrill.	Klamath.	4,070	5	65.4	.....	94	16	33	8	43	0.17	.....	0.15	0	0	25	5	1	Mrs. Agnes Ritchison.	
Metolius.	Crook.	70.2	.....	106	16	33	8	51	0	.....	0	0	0	0	0	25	4	2	W. E. Lotman.	
Mikkalo.	Gilliam.	1,400	5	73.1	.....	107	16	41	10†	47	0	.....	0	0	0	31	0	0	Frank Little.	
Miramonte Farm.	Clackamas.	195	23	68.2	+ 3.0	101	24	42	8	47	0.08	-0.46	0.06	0	0	25	4	2	G. Muecke.	
Monroe.	Benton.	350	14	67.2	+ 1.9	100	16	41	8†	44	0.05	-0.27	0.03	0	0	27	3	1	L. A. Peek.	
Mount Angel.	Marion.	485	25	69.0	+ 1.8	97	24†	44	8	39	0.16	-0.46	0.12	0	0	25	4	2	Dr. Urban Fisher.	
Mount Hood.	Hood River.	1,650	1	68.0	.....	99	15	40	22	45	0.20	.....	0.20	0	0	29	2	0	S. G. Batson.	
Musick.	Douglas.	5,000	22	62.6	.....	90	16	34	8	32	0.00	.....	0.00	0	0	29	1	1	Alex. Lundberg.	
Newport.	Lincoln.	69	24	57.0	-0.7	74	24	42	11	24	0.06	-0.80	0.05	0	0	13	8	10 <sup>a</sup>	William Matthews.	
Paisley.	Lake.	4,500	8	71.5	.....	95*	16	39	1*	39*	T.	.....	0.05	0	0	26*	4*	2	E. C. Woodward.	
Paulina.	Crook.	64.4	.....	99	16	30	1†	69	0.05	.....	0.05	0	0	0	1	20	6	5	Orrin C. Mills.	
Pendleton.	Umatilla.	1,070	22	.....	.....	99	15	34	8	44	0	.....	0	0	0	0	0	0	E. F. Averill.	
Pilot Rock.	do.	1,817	3	74.2	.....	110	16	42	31	55	0.17	.....	0.17	0	1	30	0	1	John P. McManus.	
Pompeii.	Clackamas.	3,879	16	55.8	0	91	15	34	2†	45	0.25	-1.61	0.20	0	2	17	13	1	E. Coalman.	
Portland.	Multnomah.	57	41	69.5	+ 3.2	99	24	47	9	36	0.01	-0.53	0.01	0	1	16	10	5	nw.	
Port Orford.	Curry.	80	6	57.6	.....	74	5	44	13†	22	0	.....	0	0	0	17	8	6	J. D. Loucks.	
Prairie City.	Grant.	3,425	14	68.2	.....	100	14†	33	8	52	0.22	.....	0.22	0	1	24	7	0	A. M. F. Kirchheimer.	
Prineville.	Crook.	2,864	15	65.6	+ 0.6	95	17	31	7†	56	0	0.34	0	0	0	27	4	0	George Summers.	
Prospect.	Jackson.	2,800	10	59.4	.....	100	16	31	1	53	0	.....	0	0	0	21	8	2	E. F. Graham.	
Ramsey.	Wasco.	1,350	10	66.6	.....	99	15	34	8	44	0	.....	0	0	0	29	2	0	Mrs. Iva B. Collins.	
Range.	Grant.	3,500	3	66.0 <sup>b</sup>	.....	99	15	32	8	53	0	.....	0	0	0	31	0	0	Mrs. Emma Arbuckle.	
Redmond.	Crook.	67.8	.....	102	15	32	8	53	0	.....	0	0	0	0	0	20	11	0	E. E. Foote.	
Richland.	Baker.	2,350	10	70.8b	.....	102	16	39	10	45 <sup>b</sup>	0	.....	0	0	0	0	0	0	L. G. Morgan.	
Riverside.	Malheur.	3,000	12	68.0	+ 4.4	105	16	43	8	50	0.03	-0.29	0.03	0	1	22	9	0	Mrs. Leah Fairman.	
Roseburg.	Douglas.	510	33	70.6	+ 4.4	105	16	43	8	50	0.03	-0.29	0.03	0	0	24	0	7	U. S. Weather Bureau.	
Salem.	Marion.	120	21	69.4	+ 3.0	98	16	45	8	38	0.06	-0.42	0.05	0	0	27	2	2	M. P. Baldwin.	
Silver Lake.	Lake.	4,700	14	66.4	-0.2	99	16	28	8	56	0.16	-0.34	0.10	0	3	9	22	0	L. W. Charles.	
Siskiyou.	Jackson.	4,115	3	67.4	.....	95	16	30	8	37	0.17	.....	0.17	0	1	14	15	2	U. S. Weather Bureau.	
Sparta.	Baker.	4,150	20	70.0	.....	95	16	42	9	44	0.10	-0.70	0.08	0	2	.....	.....	.....	J. A. Wright.	
Stafford.	Clackamas.	400	15	68.0	+ 1.7	102	24	42	9	44	0.10	-0.70	0.08	0	2	.....	.....	.....	John P. Gage.	
The Dalles.	Wasco.	112	37	75.0	.....	105	23	45	1†	40	0	-0.56	0	0	0	29	2	0	S. L. Brooks.	
Toledo.	Lincoln.	75	21	62.6	+ 1.5	95	23	47	9	57	T.	-0.18	T.	0	0	27	2	2	C. B. Crosno.	
Umatilla.	Umatilla.	340	23	78.4	+ 3.0	109	16	53	11	44	T.	-0.18	T.	0	0	31	0	0	Mrs. Helen T. Duncan.	
Vale.	Malheur.	2,242	19	73.4	+ 3.0	104	16	40	9	52	0.03	-0.25	0.03	0	1	24	0	0	H. P. Osborne.	
Van.	Harney.	3,506	6	79.0	.....	102	17†	47	30†	47	0.07	0.07	0	0	1	19	9	3	George Howe.	
Wallace Orchard.	Polk.	170	2	69.1	.....	100	24	44	9†	46	T.	.....	0	0	0	15	16	0	Charles A. Park.	
Wallowa.	Wallowa.	2,935	8	64.8	.....</td															

TABLE 2.—*Daily precipitation for July, 1911. District No. 12, Columbia Valley.*

TABLE 2.—*Daily precipitation for July, 1911. District No. 12—Continued.*

Stations.	Watershed.	Day of month.																														Total.		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
<i>Idaho—Continued.</i>																																		
Orofino	Clearwater	.15		.03	T.			T.	T.						.01	T.	T.		T.														0.19	
Payette	Payette																																T.	
Peaceful Valley	Snake																																	0.49
Pebble	Port Neuf																																T.	
Pierson	Salmon																																0.28	
Pleasant Valley	Boise	.04																															0.47	
Pocatello	Port Neuf																																0.15	
Pocatello Nursery	do																																	
Poplar	Snake																																	
Porthill	Kootenai																																	0.49
Pyle Creek	Payette	.10																															0.20	
Richfield	Wood-Malad																																0.00	
Roseberry	Payette																																0.50	
Roseworth	Snake																																0.25	
Rupert	do	.02																															0.40	
St. Maries	St. Joe	.28		.06	.01																											0.35		
Salmon	Salmon	.08		T.																												0.26		
Salmon River Dam	Snake																																0.26	
Sandpoint	Pend Oreille	.08		.01																												0.18		
Sheep Hill	Boise	.01																														0.10		
Shoshone	Wood-Malad																															T.		
Silver City	Owyhee	T.																														0.36		
Soldier Creek	Wood-Malad																															T.		
Spirit Lake	Pend Oreille	.31		.32																												0.63		
Springfield	Snake																															0.02		
Sugar	do	.06																														0.11		
Sunnyside	do	T.																														0.13		
Tripod Mountain	Payette																															0.05		
Twin Falls	Snake																															0.05		
Vernon	do	.10		.25																												0.50		
Wallace	Cr. d'Alene	.08																														0.39		
Wendell	Wood-Malad																															T.		
<i>Washington.</i>																																		
Aberdeen	Coast	.11	.09	.20																													0.80	
Anacortes	Puget Sound	.07	.12																														.34	
Baker	do	T.	.26																													T.		
Bellingham	do	.06		.10																												.08		
Bellingham, near	do	.01	.02	.03	T.																											.19		
Beverly	Columbia																																	
Blaine	Puget Sound	.03	.11																														.62	
Blewett	Wenatchee																																	
Bremerton	Puget Sound																																.14	
Brewster	Columbia	T.		.06																														
Bumping Lake	Yakima																																	
Cedar River	Puget Sound	.23	.03																														.89	
Centralia	Coast	T.	.14																														.14	
Cheney	Spokane																																.00	
Cle Elum	Yakima																																	
Clearbrook	Puget Sound	.33	.72																														1.54	
Colfax	Palouse																																	
Colville	Columbia	.97	.09																														1.06	
Conconully	Okanogan																																.03	
Cowiche	Yakima																																.02	
Crescent	Spokane	.27																															.29	
Davenport	Columbia	.22																															.22	
Dayton	do	.05																															.05	
Deer Park	Spokane	.40		.03																													.49	
Detroit	Puget Sound	.02		.03																													.61	
Dixie	Columbia	.03																															.03	
Dryden	Wenatchee																																.00	
Duckabush	Puget Sound	.05																															.40	
Ellensburg	T.																																	
Ephrata	Columbia																																	
Forks	Coast																																	
Fort Simcoe	Yakima																																	.00
Gerome	Columbia			</																														

TABLE 2.—*Daily precipitation for July, 1911. District No. 12—Continued.*

TABLE 2.—*Daily precipitation for July, 1911. District No. 12—Continued.*

TABLE 2.—*Daily precipitation for July, 1911. District No. 12—Continued.*

Stations.	Watershed.	Day of month.																														Total.		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
Oregon—Continued.																																		
Seneca.....	Southeast Drainage.....																																	0.15
Silver Lake.....	do.....																																0.16	
Siskiyou.....	Rogue.....																																0.17	
Sisters.....	Deschutes.....																																0.00	
Sparta.....	Snake.....																																0.03	
Stafford.....	Willamette.....	.02																															0.10	
Starkey.....	Gnd. Ronde.....																																0.00	
Summit.....	Willamette.....	.05						T.	.04																							0.09		
Summit Prairie.....	Deschutes.....																																T.	
Susanville.....	John Day.....																																0.03	
Tamarack.....	do.....																																0.15	
Telocastet.....	Snake.....																																0.00	
The Dalles.....	Columbia.....																																T.	
Tinroo Cabin.....	Umatilla.....																																0.00	
Toledo.....	Coast.....																																0.00	
Trail.....	Rogue.....																																0.00	
Trask.....	Coast.....																																T.	
Umatilla.....	Columbia.....																																T.	
Unity.....	Snake.....																																0.20	
Vale.....	Malheur.....	.03																															0.03	
Valley Falls.....	South east Drainage.....																																...	
Van.....	Malheur.....																																T.	
Wallace Orchard.....	Willamette.....																																T.	
Waltonapa.....	Gnd. Ronde.....	.10																															0.10	
Wallowa.....	do.....																																T.	
Wamic.....	Deschutes.....																																0.00	
Warmspring.....	do.....																																T.	
Wasco.....	Columbia.....																																0.00	
Welches.....	do.....	.06	.10	T.																													0.46	
Westfall.....	Malheur.....	.07																															0.07	
Weston.....	Walla Walla.....	T.																															0.05	
Williams.....	Rogue.....																																0.10	
Yonna.....	Interior Drainage.....																																0.13	

\* Precipitation included in that of the next measurement.

† Separate dates of falls not recorded.

‡ Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures for July, 1911. District No. 12, Columbia Valley.*

Date.	Montana.				Idaho.														Idaho.				Idaho.						
	Kalispell.		Missoula.		Afton, Wyo.		Bolse.		Bonners Ferry.		Hot Spring.		Lewiston.		Mackay.		Meadows.		Pocatello.		Salmon.		Shoshone.		Vernon.		Wallace.		
	Max.	Min.	Max.	Min.			Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.			
1....	65	49	60	49	65	27	71	48	64	48	74	44	79	54	52	37	.....	.....	69	41	64	41	67	7	61	41	60	48	
2....	68	42	76	38	72	29	52	71	44	88	48	85	56	66	40	.....	.....	76	43	72	40	76	40	70	38	74	41		
3....	58	52	71	50	79	32	84	55	61	42	91	58	31	63	67	47	.....	.....	86	49	76	45	83	50	78	40	67	52	
4....	73	48	78	48	80	38	85	56	71	44	90	57	85	61	79	47	.....	.....	84	54	81	48	82	50	78	42	75	57	
5....	75	43	84	45	82	38	90	56	83	34	92	55	94	56	82	55	.....	.....	86	56	84	51	84	50	84	47	86	42	
6....	86	48	90	50	83	44	96	64	84	45	100	61	89	64	88	50	.....	.....	90	58	90	53	89	56	86	52	84	52	
7....	66	46	70	52	83	44	76	54	72	40	93	61	72	58	86	45	.....	.....	84	63	84	54	84	60	78	49	80	50	
8....	60	45	56	46	74	38	71	43	59	40	80	49	77	55	88	41	.....	.....	68	47	63	44	79	34	72	43	57	44	
9....	70	45	72	38	73	27	81	48	68	45	83	46	80	51	83	40	.....	.....	78	42	78	38	40	72	32	70	42	42	
10....	73	42	80	36	78	32	84	50	74	40	88	49	82	51	81	39	.....	.....	84	46	80	40	82	42	78	34	72	42	
11....	73	44	82	38	86	31	88	52	81	37	90	50	90	50	83	45	.....	.....	87	48	84	43	82	45	82	41	80	40	
12....	80	47	85	40	80	41	95	54	84	56	95	61	94	53	85	52	.....	.....	88	54	86	42	86	55	85	47	87	42	
13....	84	50	92	49	83	39	96	63	91	39	101	61	100	59	88	55	.....	.....	92	54	94	50	89	47	93	47	93	47	
14....	83	53	80	49	87	40	96	72	93	45	101	69	98	70	88	50	.....	.....	93	59	93	52	90	60	85	50	92	53	
15....	87	57	95	48	82	46	98	67	96	56	98	64	104	63	89	55	.....	.....	90	59	92	53	90	61	86	50	95	50	
16....	84	57	92	59	83	42	97	66	96	58	102	64	106	67	88	53	.....	.....	92	60	90	53	91	60	90	49	95	52	
17....	82	54	96	59	85	44	99	68	95	44	102	65	100	68	88	53	.....	.....	93	58	91	54	90	60	85	48	90	56	
18....	72	48	96	57	75	50	93	66	95	45	102	61	96	63	83	50	.....	.....	87	68	86	52	87	69	82	52	83	50	
19....	77	47	88	48	70	41	94	60	87	52	98	61	98	61	87	49	.....	.....	89	56	88	51	87	58	84	45	88	47	
20....	83	52	93	58	80	42	94	67	95	47	99	63	98	59	80	62	.....	.....	81	59	91	55	85	55	82	47	89	46	
21....	87	50	88	54	84	40	92	67	97	47	100	66	93	60	84	48	.....	.....	89	59	85	53	86	60	81	54	85	46	
22....	76	55	79	51	75	39	82	58	97	46	83	55	84	60	83	50	.....	.....	81	67	84	56	84	55	81	49	74	48	
23....	73	48	82	50	81	31	87	53	93	44	80	57	92	57	80	53	.....	.....	81	48	78	44	82	45	79	39	86	45	
24....	85	49	93	50	83	36	92	58	95	50	98	52	101	61	94	46	.....	.....	88	48	86	52	86	57	86	49	94	49	
25....	90	52	96	48	81	41	94	62	83	51	98	56	102	64	90	50	.....	.....	86	59	93	50	87	56	86	47	94	50	
26....	82	56	91	59	77	40	88	67	84	52	94	56	89	62	92	53	.....	.....	84	62	85	51	84	57	80	45	82	56	
27....	79	46	84	43	75	37	85	56	84	40	92	58	90	55	90	48	.....	.....	84	57	84	50	82	53	78	49	80	41	
28....	54	46	90	42	79	33	92	57	92	48	98	52	99	56	86	45	.....	.....	87	50	85	43	86	45	82	37	89	44	
29....	87	46	91	46	83	35	89	52	84	42	95	53	98	60	85	50	.....	.....	88	53	86	45	82	51	85	44	86	45	
30....	62	48	81	48	76	42	87	61	82	44	92	60	86	65	88	50	.....	.....	81	59	85	42	82	51	76	53	78	51	
31....	70	42	80	38	77	36	87	55	70	46	91	53	91	54	87	54	.....	.....	82	49	80	43	82	47	77	38	82	42	
Mns.	76.7	48.6	83.6	48.0	79.3	37.9	88.5	58.8	83.5	45.5	98.2	59.0	52.6	92.7	59.4	45.5	84.8	.....	.....	84.8	54.4	83.7	47.7	84.0	52.2	80.5	45.1	81.5	47.4

Date.	Washington.																											
	Aberdeen.		Blaine.		Colville.		Kosmos.		Lakeside.		North Head.		North Yakima.		Odessa.		Port Crescent.		Seattle.		Sixprong.		Spokane.		Tacoma.		Tatoosh Island.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	59	54	62	46	74	52	63	50	82	52	56	51	80	47	84	39	59	49	64	53	79	49	67	47	64	53	53	49
2....	64	50	64	52	77	55	72	41	80	57	57	51	85	55	85	40	57	48	68	52	84	61	77	54	68	56	49	
3....	59	50	66	51	70	54	63	51	78	59	56	52	82	56	88	42	55	47	60	51	74	54	62	57	48	57	48	
4....	71	50	69	40	80	41	77	54	84	53	58	54	92	54	90	45	63	42	73	54	89	55	78	53	56	48	56	
5....	81	46	75	46	88	42	88	45	89	54	60	53	93	60	94	44	63	41	77	54	95	61	85	60	54	62	48	
6....	60	49	68	54	88	43	82	50	81	53	57	51	93	62	82	45	56	48	65	53	86	60	84	57	65	55	51	
7....	64	49	65	50	77	43	60	55	74	51	57	50	76	45	80	40	58	48	62	50	74	48	65	64	57	50	50	
8....	63	46	64	50	78	46	61	48	77	52	56	52	81	50	85	41	59	47	61	50	80	42	68	63	49	58	50	
9....	68	50	67	49	78	47	71	39	79	54	59	52	84	53	86	44	59	49	66	52	85	49	74	52	69	50</		

TABLE 3.—*Maximum and minimum temperatures for July, 1911. District No. 12—Continued.*

Date,	Walla Walla, Wash.		Oregon.																		Vale.																					
			Ashland.		Baker.		Eugene.		Gold Beach.		Hermiston.		Marshfield.		Portland.		Prineville.		Roseburg.		The Dalles.		Max.	Min.																		
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.																				
1.....	78	53	79	43	71	48	76	51	.....	75	51	67	46	72	54	84	42	81	45	.....	74	45																				
2.....	85	60	85	50	80	48	76	48	.....	80	53	66	51	72	56	80	41	84	50	.....	89	41																				
3.....	83	63	84	55	75	50	76	52	.....	87	62	69	53	66	57	88	40	82	54	.....	92	50																				
4.....	86	64	90	57	77	51	78	57	.....	90	62	69	56	73	60	89	41	85	59	.....	93	57																				
5.....	95	60	97	59	89	49	87	51	.....	95	55	73	50	88	59	94	46	94	54	.....	97	54																				
6.....	84	58	87	47	88	53	86	52	.....	94	68	63	47	71	56	83	40	76	53	.....	100	54																				
7.....	68	52	71	46	61	44	66	50	.....	80	51	64	42	63	53	78	31	67	51	.....	94	55																				
8.....	75	50	81	43	69	37	70	42	.....	80	51	66	42	65	50	70	42	79	43	.....	81	47																				
9.....	81	51	84	45	75	42	74	44	.....	85	55	64	43	69	47	76	37	83	45	.....	87	40																				
10.....	82	54	88	47	78	40	73	48	.....	87	53	63	45	72	53	86	39	80	48	.....	92	44																				
11.....	88	54	92	52	81	41	81	46	.....	91	49	63	44	80	56	89	41	88	48	.....	91	55																				
12.....	94	55	94	59	84	50	89	50	.....	97	46	71	33	91	60	89	39	96	53	.....	99	50																				
13.....	99	62	96	64	91	55	92	52	.....	101	55	73	51	97	66	90	57	89	58	.....	100	56																				
14.....	102	74	100	66	90	66	93	57	.....	102	71	65	47	92	68	82	38	98	55	.....	103	67																				
15.....	106	72	102	66	90	58	94	58	.....	108	65	64	48	94	65	87	31	103	58	.....	101	61																				
16.....	106	73	104	70	96	60	98	62	.....	110	61	70	49	97	66	83	40	105	62	.....	104	61																				
17.....	98	74	100	66	92	61	97	61	.....	109	67	74	51	95	66	95	58	98	64	.....	102	59																				
18.....	95	69	95	64	87	57	94	53	.....	91	61	70	46	94	62	91	54	96	56	.....	99	60																				
19.....	98	71	92	62	89	51	81	47	.....	99	51	64	51	84	57	92	52	88	54	.....	101	51																				
20.....	96	70	89	56	91	56	76	51	.....	95	69	66	54	73	54	90	50	83	50	.....	102	57																				
21.....	89	62	84	55	85	52	75	49	.....	85	62	65	53	70	55	87	45	75	49	.....	97	57																				
22.....	84	57	89	49	73	44	78	43	.....	87	65	68	45	76	56	81	45	85	47	.....	89	56																				
23.....	95	60	99	50	84	45	92	48	.....	96	53	77	46	96	60	90	41	100	50	.....	92	47																				
24.....	100	71	96	67	90	52	96	57	.....	100	54	71	48	99	67	89	45	101	58	.....	98	47																				
25.....	100	76	86	62	88	54	89	61	.....	98	52	63	54	84	58	89	50	88	65	.....	98	50																				
26.....	90	68	89	61	84	55	87	50	.....	95	54	64	53	76	53	90	51	88	55	.....	91	50																				
27.....	91	63	93	54	81	45	84	46	.....	94	55	64	46	85	54	91	50	92	49	.....	94	50																				
28.....	98	65	97	60	90	47	90	48	.....	100	51	61	50	89	58	94	45	98	52	.....	96	45																				
29.....	95	72	90	64	87	55	88	50	.....	95	53	66	51	82	59	92	46	87	56	.....	94	42																				
30.....	86	65	86	55	79	49	85	47	.....	96	54	65	54	75	54	90	50	87	47	.....	92	58																				
31.....	88	63	89	52	82	44	81	46	.....	90	55	65	54	75	56	87	46	84	48	.....	96	45																				
Means.....	90.9	63.3	90.3	56.3	83.3	50.3	83.9	50.9	.....	93.3	56.9	66.9	48.8	81.1	57.9	87.0	44.1	88.4	52.9	.....	91.8	52.1																				

<sup>a, b, c, etc.</sup>, indicate, respectively, 1, 2, 3, etc., days missing from the record.<sup>§</sup> Data are from standard instruments not supplied by the U. S. Weather Bureau.<sup>¶</sup> Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.